

Appendix 1.



North Carolina Department of Health and Human Services Division of Public Health

Pat McCrory
Governor

Aldona Z. Wos, M.D.
Ambassador (Ret.)
Secretary DHHS

Daniel Staley
Acting Division Director

November 14, 2013

Dear Mr. Legg:

Thank you for your inquiry to the Central Cancer Registry (CCR) regarding cancer cases in Mecklenburg County. We receive many requests such as yours for information about cancers in local areas throughout the state. The CCR compiles information on cancers across North Carolina and we monitor cancer rates for many types of cancer for each county annually to see if there appear to be areas of the state that need special attention.

Although much has been learned about cancer over the past couple of decades, there is still much that is not known about the causes of cancer. What we do know is that cancer is not one disease, but a group of diseases that behave similarly. We know that different types of cancers are caused by different things. For example, cigarette smoking has been implicated in causing lung cancer, some chemical exposures are associated with leukemia, and prolonged exposure to sunlight causes some types of skin cancer. Genetic research has shown that defects in certain genes result in a much higher likelihood that a person will get cancer. What is not known is how genetic factors and exposures to cancer causing agents interact.

Many people do not realize how common cancers are. It is estimated that one out of every two men and one out of every three women will develop a cancer of some type during his or her lifetime. As a result, it is common to find what appear to be cancer cases clustering in neighborhoods over a period of years. This will occur in any neighborhood. As people age, their chance of getting cancer increases, and so as we look at a community, it is common to see increasing numbers of cancer cases as the people in the community age.

Cancers are diseases that develop over many years. As a result, it is difficult to know when any specific cancer began to develop, and consequently, what the specific factor was which caused the cancer. Because people in our society move several times during their lives, the evaluation of clusters of cancer cases is quite challenging. One can never be certain that a specific cancer was caused by something in the community in which the person currently resides.

When clusters of cancer cases are investigated, we look for several things that are clues to likely associations with exposures in the community. These are:

1. Groups of cases of all the same type of cancer (such as brain cancer or leukemia). Because different things cause different types of cancer, cases of many different types of cancer do not constitute a cluster of cases.
2. Groups of cases among children, or ones with an unusual age distribution.
3. Cases diagnosed during a relatively short time interval. Cases diagnosed over a span of years do not constitute a cluster of cases unless there is consistency in the type of cancer.
4. Clusters of rare cancers. Because lung, breast, colon, and prostate cancers are so common, it is very difficult to find any association between them and exposures in a community.

This report is updated based on cases reported to the North Carolina Central Cancer Registry (CCR) as of October 1, 2013, diagnosed during 1990 - 2012, address at the time of diagnosis in North Carolina and diagnosis codes as reflected in the pathology and medical reports reported from the hospitals and facilities. Further, cases diagnosed out of the state and country but may be receiving treatment in facilities in North Carolina are not included as they are not required to be reported. The CCR does not have real time data because it takes hospitals at least six months after the diagnosis of a malignancy to submit cancer diagnosis reports. The reason for this is that, per General Statute 130A-209, CCR requires facilities to report complete first course of treatment data and many cases have an extended period of first course treatment. The patient may have surgery, followed by multiple courses of chemotherapy, followed by radiation therapy. In order to obtain complete and accurate data from the facilities there is a lag time of at least six months. For some cases, CCR receives multiple reports from different

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facilities, which are reviewed and consolidated on an ongoing basis. CCR continues to receive reports from the hospitals for cases diagnosed in 2011, 2012 and prior years. Cases diagnosed in 2013 are beginning to be processed.

In order to evaluate the cancer risk in the area requested, all of the cases of cancer in our database diagnosed from 1990 to 2012 were identified. During this time a total of 64,364 cancer cases were diagnosed in Mecklenburg County. Across the county, the four major cancers - female breast, colon and rectum, prostate, and lung and bronchus - comprised 57 percent of the 64,364 cases. Pediatric cancers comprised 1 percent of the total number of cases and 80 percent of the cases were age 50 or older, when cancer diagnoses are quite common. These cases were spread out over the 23 years, not concentrated in a short time period.

Further, we looked at the age-adjusted incidence rates for Mecklenburg County for the 2006-2010 diagnosis years and found that prostate and female breast were relatively higher than the state rates; and colon and rectum and lung and bronchus rates were lower than the state rates. Overall there were 17,741 cases reported in Mecklenburg County for this five year period.

Concern was expressed about cancer incidence in Huntersville. From 1990 to 2012, there were 2,688 cases in this town. The top four cancers comprised 57 percent of these cases. At least 76 percent of the cases were age 50 or older, in which cancer diagnoses are quite common and 1 percent of the cases were pediatric. Further, we looked at cancers that have been shown to be associated with environmental risk factors (liver, pancreas, leukemia, brain, bladder, kidney, multiple myeloma and non-Hodgkin lymphoma) and identified a total of 448 cases in this town for the 23 year period. These cases were spread out over the 23 years and not concentrated in any time period.

There were two particular areas in Huntersville that were of interest. We looked at cases within two miles of the nuclear station and found 205 cases in the area between 1990 and 2011. The four major cancers comprised 52 percent of cases. Eighty percent of cases were age 50 or older and 2 percent of the cases were pediatric. We also looked at cases within a two mile radius of the high school of interest. From 1990 to 2011, there were 289 cases reported in the region. The top four cancers comprised 54 percent of the cases. Almost three-fourths of the cases were diagnosed in people age 50 and older while 1 percent of the cases were diagnosed in pediatrics.

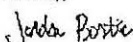
Further, concern was also expressed over the incidence of ocular melanoma (defined as primary site: C69 with histology codes: 8720-8780). Between 1990 and 2012, there were 77 cases (or 0.12% of all cancer cases) of ocular melanoma in Mecklenburg County while there were 1,232 cases (or 0.14% of all cancer cases) statewide. There were less than 5 cases of ocular melanoma in Huntersville in the time period. The number of cases is fairly consistent over the time period for Mecklenburg County, and the cases were spread out over the 23 years, not concentrated in a short time period.

Overall, no consistent pattern of cases was observed other than those previously stated. It is possible that there is an environmental risk for cancer in the area; however, we do not see a higher occurrence of cancers in the populations usually associated with environmental factors at this time or any evidence of a clustering of cancer cases in any of these areas.

On the CCR website (www.schs.state.nc.us/data/cancer.cfm), there is additional North Carolina cancer information, including the NC Cancer Profile and the Cancer Profile for Mecklenburg County. There are also fact sheets regarding the leading cancers in the state. If you have questions regarding any of this information or you want additional resources about cancer, please do not hesitate to contact the CCR at (919) 715-7289.

At the request of the North Carolina Senate, House of Representatives and local health departments, copies of neighborhood cancer evaluations are also sent to those who represent and serve the area of the state being evaluated.

Sincerely,



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